

KULISH, S.A., inzh.

Determining the efficiency of reorganizing mines. Izv.vys.  
ucheb.zav.; gor.zhur. no.7:35-38 '60. (MIRA 13:7)

1. Khar'kovskiy inzhenerno-ekonomicheskii institut.  
Rekomendovana kafedroy ekonomiki i organizatsii material'no-  
tekhnicheskogo snabzheniya.  
(Coal mines and mining--Costs)

KULISH, S.A., inzh.; CHUGAYENKO, N.I.

Potentialities for the reduction of supply costs in coal mining.  
Izv. vys. ucheb. zav.; gor. zhur. no.10:53-58 '60. (MIRA 13:11)

1. Khar'kovskiy inzhenerno-ekonomicheskoy institut. Rekomendovana  
kafedroy ekonomiki i organizatsii material'no-tekhnicheskogo  
snabzheniya.

(Coal mines and mining—Equipment and supplies)

KULISH, S.A.

Reducing expenditures for equipment procurement. Ugol' 35 no.11:59-  
60 N '60. (MIRA 13:12)  
(Coal mines and mining--Equipment and supplies)

KULISH, S.A., kand.ekon.nauk, dotsent

Improving the organization of equipment and material supply.  
Ugol' Ukr. 5 no.9:40-41 S '61. (MIRA 14:9)

1. Khar'kovskiy inzhenerno-ekonomicheskij institut.  
(Donets Basin--Coal mines and mining--Equipment  
and supplies)

NAUMENKO, K.D., doktor ekonom.nauk, prof.; KULISH, S.A., kand.ekonom.nauk,  
dotsent; CHUGAYENKO, N.I., inzh.

"Fundamentals for setting norms in material expenditures in coal  
mining" by M.E.Raikher, I.G.Guberman. Reviewed by K.D.Naumenko,  
S.A.Kulish, N.I.Shugaenko. Ugol' 36 no.8:62-63 Apr '61.  
(MIRA 14:9)

1. Khar'kovskiy inzhenerno-ekonomicheskii institut.  
(Coal mines and mining--Equipment and supplies)  
(Coal mines and mining--costs)  
(Raikher, M.E.) (Guberman, I.G.)

KULISH, S. A., inzh.

Limits for enlarging lumber warehouses. Izv. vys. ucheb. zav.:  
gor. zhur. 5 no. 8:68-70 '62. (MIRA 15:10)

1. Khar'kovskiy inzhenerno-ekonomicheskoy institut. Rekomendovana kafedroy ekonomiki i organizatsii material'no-tekhnicheskogo snabzheniya.

(Lumber—Storage)

KULISH, S.A., dotsent

Investigation of manpower used for the storage of lumber and  
mining materials in mines. Izv. vys. ucheb. zav.; gor. zhur.  
6 no.9:72-76 '63. (MIRA 17:1)

1. Khar'kovskiy inzhenerno-ekonomicheskoy institut. Rekomendovana  
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KULISH, S.A., dotsent

Using correlation for the analysis of coal costs. Ugol' Ukr. 7  
no.11:48-49 N '63. (MIRA 17:4)

1. Khar'kovskiy inzhenerno-ekonomicheskij institut.



KULISH, S.A., dotsent

Correlative analysis of the capital assets of coal mines. Izv.  
vys.ucheb.zav.gor.zhur. 7 no. 1:80-83 '64. (MIRA 17:5)

1. Khar'kovskiy inzhenerno-ekonomicheskiy institut. Rekomendovana  
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KULISH, S.A., dotsent

Using the theory of mass handling in the organization of loading and unloading operations. *Izv.vys.ucheb.zav.;gor.zhur.* 7 no.7:53-59 '64.  
(MIRA 17:10)

1. Khar'kovskiy inzhenerno-ekonomicheskiy institut. Rekomendovana kafedroy ekonomiki i organizatsii gornogo proizvodstva.

KULISH, S.A., kand.ekonom.nauk; GRITSAY, A.P., kand.ekonom.nauk

Planning the internal working capital of a coal mine on the basis of a multiple correlation. Izv.vys.ucheb.zav.; gor.zhur. 8 no.11:50-54 '65.

(MIRA 1981)

1. Khar'kovskiy inzhenerno-ekonomicheskoy institut. Rekomendovana kafedroy bukhgalterskogo ucheta i statistiki. Submitted January 1, 1965.

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KULISH, U.M.; VYATKIN, A.P.

Dislocation structure of alloy contacts between semiconductors  
and metals. Izv. vys. ucheb. zav.; fiz. 8 no.6:157-161 '65.

(MIRA 19:1)

1. Sibirskiy fiziko-tekhnicheskoy institut imeni V.D. Kuznetsova.  
Submitted May 26, 1964.

RULEVA, V.  
KULISH, V., sportsmen pervogo razryada; RULEVA, V., sportsmen pervogo  
razryada.

Record parachute jumps from the stratosphere. Kryl.rod.8  
no.11:6-7 N '57. (MIRA 10:12)  
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CHERNYSHEVICH, Fedor Ignat'yevich, inzh.; GURETSKIY, Semen  
Aleksandrovich, inzh.; KULISH, Viktor Fedorovich. inzh.;  
Prinimal uchastiye MIRONOV, K.A., inzh.; ROMADINA, I.V.;  
AYBASHEVA, T.V., red.

[Safety procedures in the repair of electric rolling stock]  
Tekhnika bezopasnosti pri remonte elektropodvizhnogo sostava.  
Moskva, Transport, 1965. 98 p. (MIRA 18:8)



VASILENKO, V.A., kand.filosofskikh nauk, polkovnik zapasa; KULAKOV, V.M.,  
kand.istoricheskikh nauk, kapitan I rango; KULISH, V.M., kand.  
istoricheskikh nauk, polkovnik; GOLUNOV, A.V., polkovnik, red.;  
DOZHDEV, I.M., tekhn.red.

[Present-day imperialist military ideology] Sovremennaya imperiali-  
sticheskaya voennaya ideologiya. Pod red. V.A. Vasilenko, V.M.  
Kulakova i V.M. Kulish. Moskva, Voen. izd-vo M-va obor. SSSR,  
1958. 495 p. (MIRA 12:2)

1. Voenno-politicheskaya krasnoznamennaya akademiya imeni  
V.I. Lenina. (Military art and science)

KULISH, YA. K.

USSR/Miscellaneous

Card 1/1 : Pub. 133 - 21/21

Authors : Kulish, Ya. K., deputy of the Kursk Line Technical Administration

Title : Line Technical Centers are supplied unsatisfactorily with poles

Periodical : Vest. svyazi 9, the 3-rd page of the folder, Sep 1954

Abstract : In a letter to the editor the author describes various discrepancies in supplying the line technical centers of Kursk Oblast' with telegraph and telephone poles.

Institution : ...

Submitted : ...

KULISH, Ye. A. Cand Geol-Min Sci -- "Geology and petrology of quartzites of ~~the~~  
Archean rocks of the southern <sup>part of the</sup> Aldan shield." Len, 1960. (Acad Sci USSR. Geol  
Museum in A. P. Kerpinskiy. Len State Ped Inst in A. I. Gertsen. Chair of  
Geology) (KL, 1-G1, 185)

. KULISH, Ya.A.

Quartzites of the Iyengra series and hydrothermal processes in  
place of low coherence in the Gorbylyakh Valley (southern Aldan  
shield). Trudy Geol. muz. AN SSSR no.2:82-100 '60.

(MIRA 13:10)

(Gorbylyakh Valley--Quartzite)

KULISH, Ye.A.

Early Mesozoic alkali granites in the southern Aldan Shield. Geol.  
i geofiz. no.12:112-115 '60. (MIRA 14:5)

1. Geologicheskii muzei AN SSSR imeni A. P. Karpinskogo Leningrad  
(Aldan Plateau---Granite)

KULISH, Ye.A.

Manganese-alumina rocks with viridine in the Archean of the Aldan  
Shield. Geol. i geofiz. no. 1:53-65 1961. (MIRA 14:5)

1. Geologicheskiy muzey AN SSSR imeni A.P. Karpinskogo, Leningrad.  
(Aldan Plateau-Viridine)

KULISH, Ya.D.; SOLOMONOV, A.Ye.

Boring horizontal connection boreholes from an inclined shaft at the Moscow Basin "Podzemgas" plant. Podzem.gaz.ugl. no.1:46-51 '57. (MIRA 10:7)

1. Podmoskovnaya stantsiya "Podzemgas."  
(Moscow Basin--Boring)

KULISH, Ye.D.

Industrial operation of the Moscow Basin "Podzemgaz" plant.  
Podzem.gaz.ugl. no.2:27-31 '57. (MLRA 10:7)

1. Podmoskovnaya stantsiya "Podzemgaz."  
(Moscow Basin--Coal gasification, Underground)



KULISH, Ye. Ye.

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PHASE I BOOK EXPLOITATION

SOV/1297

Vsesoyuznaya nauchno-tekhnicheskaya konferentsiya po primeneniyu radioaktivnykh i stabil'nykh izotopov i izlucheniye v narodnom khozyaystve i nauke, Moscow, 1957

Polucheniye izotopov. Moshchnyye gamma-ustanovki. Radiometriya i dozimetriya; trudy konferentsii... (Isotope Production. High-energy Gamma-Radiation Facilities. Radiometry and Dosimetry; Transactions of the All-Union Conference on the Use of Radioactive and Stable Isotopes and Radiation in the National Economy and Science) Moscow, Izd-vo AN SSSR, 1958. 293 p. 5,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR; Glavnoye upravleniye po ispol'zovaniyu atomnoy energii SSSR.

Editorial Board: Frolov, Yu.S. (Resp. Ed.), Zhavoronkov, N.M. (Deputy Resp. Ed.), Aglintsev, K.K., Alekseyev, B.A., Bochkarev, V.V., Leshchinskiy, N.I., Malkov, T.P., Sinitsyn, V.I., and Popova, G.L. (Secretary); Tech. Ed.: Novichkov, N.D.

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Isotope Production (Cont.)

SOV/1297

**PURPOSE:** This collection is published for scientists, technologists, persons engaged in medicine or medical research, and others concerned with the production and/or use of radioactive and stable isotopes and radiation.

**COVERAGE:** Thirty-eight reports are included in this collection under three main subject divisions: 1) production of isotopes 2) high-energy gamma-radiation facilities, and 3) radiometry and dosimetry.

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This article describes the basic structural features of  
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A method is described for enriching natural mixtures containing ~18.6 percent  $\text{B}^{10}$  concentration to ~80 percent  $\text{B}^{10}$  concentration by low temperature (~ - 100 degrees, scale not stated) adiabatic rectification. Separation capability was  $\text{B}^{10}$  of 95-96 percent purity after 480 hours processing; but, as the desired concentration was ~80 percent, separation yield was 4 liters per 24 hours. Block diagrams of installations are given.

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Basic problems concomitant to planning and constructing  
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requiring high dosage (microorganisms, biological substrates) c) industrial radiation of biological products requiring sterilization, preservation, disinfection, etc. d) medical and therapeutical purposes.

Breger, A. Kh., V.A. Belynskiy, V.L. Karpov, S.D. Prokudin and V.B. Osipov. Facility for Radiation-Chemical Research Employing Co<sup>60</sup> Gamma-Radiation Source With an Activity of 21,000 g-ev of Radium

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A K-20000 Co<sup>60</sup> gamma-radiation source, cited as the most powerful in the world according to available data, is described and basic parameters tabulated. The unit is provided with a control panel and a system of periodic observation and is capable of 1200 r/sec dosage per 0.4 liters and ~100 r/sec per 100 liters volume. Working chamber capacity is ~300 liters. The source, comprising 56 standard Co<sup>60</sup> preparations, the authors state, is safe for attending personnel owing to a "dry" method especially developed for this unit.

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This article describes a counter for the absolute measurement of beta-activity from 0.15 to 3.5 Mev. The instrument uses two standard stilbene crystals (30 mm diameter, 10 mm height) and photomultiplier FEU-19 or FEU-29. Correction factors are discussed and data on activity measurement are plotted.

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Kulish, Ye Ye.

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PHASE I BOOK EXPLOITATION SOV/1378

Sovremennoye oborudovaniye dlya raboty s radioaktivnymi izotopami; sbornik materialov (Modern Equipment for Working With Radioactive Isotopes; Collection of Materials) Moscow, Izd-vo glavnogo upravleniya po ispol'zovaniyu atomnoy energii pri sovete M-va SSSR, 1958. 110 p. (Series: Atomnaya energiya. Prilozheniye, 1958, no. 5) 8,450 copies printed.

Ed.: Zavodchikova, A.I.; Tech. Ed.: Popova, S.M.

PURPOSE: This book is intended for personnel engaged in activities involving the use of radioactive isotopes.

COVERAGE: This is supplement No. 5 to the periodical Atomnaya energiya for 1958. It contains 3 articles dealing with modern techniques, methods and apparatus for handling radioactive isotopes and may serve as a handbook in this respect. Schematic diagrams and illustrations of modern equipment for the remote handling of radioactive materials are given, as well as detailed descriptions of working principles.

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*KULISH, E. E.*  
BONCHAREN, V. V., KULISH, E. E. et al.  
*BONCHAREN, V. V.*

"Some Engineering Technological Aspects of Radiolotope and Labeled Compound Production in the USSR."

paper to be presented at the 2nd UN Intl.' Conf. on the peaceful uses of Atomic Energy, Geneva, 1 - 13 Sept 58.

SOV/89S-58-5-1/4

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AUTHORS:

Bochkarev, V. V., Kulish, Ye. Ye., Tupitsyn, I. F.

TITLE:

Some Technical and Technological Problems in the Production of Radioactive Isotopes and Tracer Compounds in the USSR  
(Nekotoryye tekhnicheskiye i tekhnologicheskiye voprosy proizvodstva radioaktivnykh izotopov i mechenykh soyedineniy v SSSR)

PERIODICAL:

Atomnaya energiya, 1958, Supplement 5, pp 5 - 25 (USSR)

ABSTRACT:

In 1958, 110 radioactive isotopes were produced commercially. 92 of them were formed by neutron irradiation. Prior to the irradiation the initial materials must be purified, if possible, so that in the subsequent processing of the radioactive elements the impurity activities do not yield too much waste. Very often it is possible to carry out the irradiations with enriched isotopes such as Fe<sup>55</sup>, Sn<sup>123</sup>, Te<sup>127</sup>, Se<sup>75</sup>, Cd<sup>115</sup>. The portions irradiated fluctuate between 0.5, 1.0, 10 and 20 cm<sup>3</sup> and were contained either in aluminum containers, boron-free glass bottles or plastic containers. The irradiation periods for isotopes with a half-life up to 3 days is 6, 9 or 15 hours. Isotopes with a half-life period of 3-30 days are

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Production of Radioactive Isotopes and Tracer Compounds in the USSR

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irradiated for 30 days. Isotopes with a half-life of more than 30 days ( $S^{35}$ ,  $Ca^{45}$ ) are kept in the reactor for 90 days. For the production of the isotopes  $C^{14}$  and  $Cl^{36}$  the initial material is irradiated for 6 to 12 months. In order not to disturb the most favorable reactor flux distribution on the feeding of the reactor with the ampoules to be irradiated a load diagram of the single irradiation chambers was set up prior to the experiments. The feeding in the different channels is therefore carried out in such a way that the original flux distribution is maintained. The irradiated samples are treated radiochemically and the desired radioactive isotopes are separated. In certain cases certain compounds are marked by these radioactive isotopes. The still high amounts of the preparations are then divided and filled into smaller ampoules. In the USSR 280 of the 450 chemical compounds produced in the usual way were produced which are synthesized from  $C^{14}$ ,  $S^{35}$ ,  $H^3$ ,  $P^{32}$ ,  $Cl^{36}$ . For the production of tracer compounds only 1 or 2 initial materials are used for the isotopes mentioned above. In this connection it is often necessary to build-in the radioactive atoms into a

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Some Technical and Technological Problems in the  
Production of Radioactive Isotopes and Tracer Compounds in the USSR

30V/89S-58-5-1/4

certain place of a polyatomic molecule. The transition into a complex organic compound takes place by synthesis or other radiochemical methods such as isotopic exchange, reactions with "hot" atoms etc. The production of chemical compounds traced with soft  $\beta$  radiators is carried out at a preparation activity of 100 mC until some C are attained; this is done in laboratories equipped with glove boxes. For the production of organic compounds marked with  $C^{14}$  mainly the synthetic method is applied using almost always  $BaC^{14}O_3$  as an initial product. The possible intermediate products are listed in a table. The possibilities based on the synthetic method are mentioned by which various compounds marked with  $S^{35}$  can be obtained from barium sulfate as an initial substance. The discharge channels and boxes used in the laboratories are equipped with manipulators or gripping gloves. Moreover, they are equipped with filters collecting the aerosols and gaseous impurities. Furthermore, these rooms are equipped with own water, gas and vacuum supplies and dispose of special channels for the removal of radioactive waste products. Photographic

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Some Technical and Technological Problems in the  
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representations are shown of 4 types of these boxes. Other very important appliances used in these radioactive laboratories are remote-control tools such as tongs, pincers, mirrors etc. Remote-controlled cutting tools, soldering bits etc. play an important part too. For the manipulation of very small volumes of active liquid volumes hydromanipulators, automatic remote-controlled burettes and pipettes are used. It is possible, for instance, to decant volumes 0.1 - 100 ml in accurate doses by means of such a hydromanipulator. Before dispatch each preparation is closely examined. The physico-chemical constants, the content of the main components, the total and the specific activity, the share of the active and inactive impurities are determined. As an example it is described how the content of the  $\gamma$ -isomer  $Cl^{36}m$  is determined in a hexachlorane preparation not yet purified. The quantitative determination of small concentrations is carried out mainly by spectrum analysis or by the polarographic method. Marked preparations used for medical or biological purposes are additionally examined as to their content of physiologically important admixtures. There are 14 figures and 2 tables.

Card 4/4

KULISH, YE YE

PHASE I BOOK EXPLOITATION

SOV/4536

Tashkentskaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii. Tashkent, 1959

Tezisy dokladov (Outlines of Reports of the Tashkent Conference on the Peaceful Uses of Atomic Energy) Tashkent, Izd-vo AN Uzbekskoy SSR, 1959. 229 p. 2,000 copies printed.

Sponsoring Agencies: Akademiya nauk Uzbekskoy SSR; Nauchno-tekhnicheskiy komitet Soveta Ministrov UzSSR.

Resp. Ed. for this book: L.G. Gurvich; Ed. of Publishing House: I. G. Gaysinskiy;  
Tech. Ed.: V. P. Bartseva.

PURPOSE: This book is intended for nuclear physicists and other members of the scientific community interested in recent progress in the peaceful uses of atomic energy.

COVERAGE: This collection of abstracts of reports and papers read at the Tashkent Conference on the Peaceful Uses of Atomic Energy reports on research on a number of theoretical problems in nuclear and radiation physics, practical problems

~~Card 1/28~~

Outlines of Reports of the Tashkent Conference (Cont.)

30V/4586

and methods in the preparation of radioactive isotopes, and the application of isotopes in industry, geology, agriculture, medicine, plant and animal biology, and other branches of the national economy and scientific research. The Table of Contents has been expanded to include authors and titles of abstracted papers appearing in section headings "Plenary Sessions" through "Radioactive Isotopes and Nuclear Radiations in Chemistry". No personalities are mentioned. There are no references.

TABLE OF CONTENTS:

Plenary Sessions

[Arifov, U. A., Institut yadernoy fiziki AN UzSSR (Institute of Nuclear Physics AS Uzbekskaya SSR). Perspectives for the Development of Scientific Research at the Institute of Nuclear Physics AS Uzbek SSR ] 5

[Kulish, Ye. Ye., and G. M. Fradkin, Glavnoye upravleniye po ispol'zovaniyu atomnoy energii pri Sovete Ministrov SSSR (Main Administration for Utilization of Atomic Energy of the Council of Ministers of the USSR). Production of Radioactive Isotopes in the Soviet Union] 6

~~Card 2/28~~

GRABLEVSKIY, V.N.; KULISH, Ye.Ye.; MATYUSHINA, N.A.; POPOVA, G.L.;  
POTAPOV, S.P.; SAVITSKIY, P.S.; TEREKHOVA, V.N.; FRADKIN, G.M.;  
LABAZNOV, V.I., red.; VLASOVA, N.A., tekhn.red.

[Isotopes, radiation sources, and radioactive materials; a  
catalog] Izotopy, istochniki izlucheniia i radioaktivnye  
materialy; katalog. Sost. avtorskim kollektivom: V.N.Grablev-  
skii i dr. Moskva, Izd-vo Glav.uprav.po ispol'zovaniu atomnoi  
energii pri Sovete Ministrov SSSR, 1959. 269 p. (MIRA 12:12)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye po ispol'zova-  
niyu atomnoy energii.  
(Radioactive substances)



S/089/60/0C9/003/013/014  
B006/R063

AUTHOR: Kulish, Ye. Ye.

TITLE:  $\alpha$ -,  $\beta$ -, and  $\gamma$ -Radiation Sources for Control and Automation of Technological Processes

PERIODICAL: Atomnaya energiya, 1960, Vol. 9, No. 3, pp. 241-242

TEXT: The present article gives a survey of the instruments and radiation sources used at present in the Soviet Union. The properties and range of application of the various sources are discussed. Among the instruments used at present in Soviet industry are contactless, radioactive thickness gauges; densimeters; level-meters; defectoscopes, etc. These and many other instruments help to solve problems in technology and research. Many of these instruments are now mass-produced: level-indicators of the type РМУ-1 (RIU-1), level-meters of the types УР-6А (UR-6A) and УР-7 (UR-7), densimeters of the type ПЖР-2 (PZhR-2), pressure gauges of the type ММР-3А (MIR-3A), and other instruments are manufactured by the Kaluzhskiy zavod pirometricheskikh priborov (Kaluga Factory for Pyrometers); thickness gauges of the types ИТУ-495 (ITU-495), ИТУ-496 (ITU-496), and

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$\alpha$ -,  $\beta$ -, and  $\gamma$ -Radiation Sources for Control  
and Automation of Technological Processes

S/089/60/009/003/013/014  
B006/B063

FT-150 (GT-150), weight meters of the type БМВ(ВМВ), difference meters of the type Р-4 (R-4), piece counters of the type РСН-11 (RSP-11), etc. by the Tallinskiy zavod KIP (Tallin Factory KIP); electronic relays by the Khar'kovskiy zavod KIP (Khar'kov Factory KIP); gamma instruments for defectoscopic purposes by the Moskovskiy zavod "Mosrentgen" (Moscow Factory "Mosrentgen"), and many other instruments. The demands made by industry on radiation sources are particularly high; so they are exposed to aggressive media, shocks, vibrations, and temperatures between ten degrees below zero and 200-300°C. etc. Radiation sources are produced in three varieties: 1) in the form of wires, rods, etc. The active material is sometimes enclosed by Al foil as, e.g., in the case of  $^{241}\text{Am}$ . 2) The active material is sealed in ampoules (for average and high activities). Single or double containers made of glass or metal are used according to the kind of source. 3) The sources are deposits of active material, placed on backings of different materials (especially for  $\text{Sr}^{90}$ ,  $\text{Pm}^{147}$ ,  $\text{Pu}$ , etc.). More than 200 sources of different kinds are produced by industry from 14 isotopes. In this connection it is noted that, as a result of bremsstrahlung and radiation due to internal conversion, electron capture, and positron annihilation, numerous gamma sources

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α-, β-, and γ-Radiation Sources for Control  
and Automation of Technological Processes

S/089/69/009/005/013/014  
B006/B065

emit spectra that differ largely from the spectra given in tables for the respective isotopes. For defectoscopic purposes the following soft emitters are recommended for light alloys, metals, and thin foils of heavy metals, as well as for technological control of materials with a low atomic number:  $\text{Eu}^{155}$ ,  $\text{Se}^{75}$ ,  $\text{Ce}^{144}$ , and  $\text{Zn}^{65}$ . Beta emitters may also be divided into two groups according to their spectral "purity": 1) "pure" beta emitters ( $\text{Pm}^{147}$ ,  $\text{Tl}^{204}$ ,  $\text{Sr}^{90}$ , and  $\text{Ce}^{144}$ ) which are particularly suitable for piece counters, thickness gauges, etc.; 2) sources with a large bremsstrahlung admixture ( $\text{Ce}^{144}$  on  $\text{Ru}^{106}$  plates, and  $\text{Sr}^{90}$  in sources of the type БИ(БИ)), which are of special use for instruments in which radiation penetrates the material. ✓

Card 3/3

FRADKIN, G.M.; KULISH, Ye.Ye.; PCHELINTSEVA, G.M., red.; POPOVA, S.M.,  
tekhn. red.

[Sources of  $\alpha$ ,  $\beta$ ,  $\gamma$ , and neutron radiation for the automa-  
tion and control of industrial processes] Istochniki  $\alpha$ -,  $\beta$ -,  $\gamma$ -  
i neitronnykh izluchenii dlia kontrolya i avtomatizatsii tekhn-  
nologicheskikh protsessov. Moskva, Gos.izd-vo lit-ry v oblasti  
atomnoi nauki i tekhniki, 1961. 86 p. (MIRA 15:1)  
(Radioactive substances--Industrial applications)

KULISH, Ye. Ye.

"Some Problems of Radioisotope Production in Research Reactors of the IRT and VVRS Types."

report presented at the Symposium on Programming and Utilization of Research Reactors, IAEA, Vienna, 16-21 Oct 1961.

33031  
S/638/61/001/000/003/056  
B102/B138

2-1-400  
AUTHORS:

TITLE:

SOURCE:

Kulish, Ye. Ye., Fradkin, G. M.

Production of radioisotopes in the USSR

Tashkentskaya konferentsiya po mirnomy ispol'zovaniyu atomnoy energii. Tashkent, 1959. Trudy. v. 1. Tashkent, 1961, 34-46

TEXT: The authors give a survey of the most important details of Soviet isotope production, which has greatly increased in the last few years. Standard T'Y (TU) specifications have also been laid down for isotope production. During the last two years the production processes for 40 new isotopes and about 200 new labelled compounds have been developed. Most of the isotopes are produced as results of (n,γ) reactions. High-purity radioisotopes are either obtained by irradiating high-purity stable isotopes or by choosing reactions in which the target is a different element from the isotope produced. The latter method has become very popular since the fast reactor has been started up, as this made (n,p), (n,α) and (n,2n) reactions possible. New isotopes are also obtained from

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B102/B138

Production of radioisotopes ...

the decay of isotopes produced by (n,γ), by (T,n) and (T,2n) reactions and from uranium fission fragments

(Pm<sup>147</sup>, Cs<sup>137</sup>, Sr<sup>90</sup> etc). They can be separated in the pure state. The new labelled compounds include a large number of complex compounds such as glycerin, glyceric acid, and benzyl alcohol which are important in biochemistry, and pharmaceutical products labelled with C<sup>14</sup>. Besides the conventional chemical methods of producing labelled compounds increasing use is made of the energy of the recoil nuclei, and the method of isotope exchange is also employed. The activities and dimensions of the Eu<sup>152</sup>, Co<sup>60</sup>, S<sup>75</sup>, Tu<sup>170</sup>, R<sup>226</sup>, C<sup>144</sup>, Eu<sup>155</sup>, and Cs<sup>137</sup> preparations commercially produced since 1959 are tabulated. 95% of the annual consumption of 5·10<sup>5</sup> curies consists of α-, β-, γ- and n-emitters. Production of the latter, which have become important in mining and well drilling, has been particularly accelerated just recently. Besides Po-Be, Ra-Be sources are also used, which are produced with different dimensions and with certain maximum intensities between 1·10<sup>4</sup> and 3·10<sup>7</sup> n/sec. The prices of the most important isotope preparations are given. To standardize activity measurements comparative measurements with standard apparatus

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X

33081

S/638/61/001/000/003/056

B102/B138

Production of radioisotopes ...

are suggested. Of the short-lived isotopes ( $t_{1/2} < 3$  d) 52 different compounds of 42 isotopes are being produced at present. The most important are  $\text{Na}^{24}$ ,  $\text{Si}^{31}$ ,  $\text{K}^{42}$ ,  $\text{Cu}^{64}$ ,  $\text{Br}^{32}$ ,  $\text{Au}^{198}$ ,  $\text{J}^{131}$ , and  $\text{P}^{32}$ . The starting materials are the chemically or analytically pure reagents. Special laboratories are needed to produce preparations of short-lived isotopes. A project for such a laboratory, produced by the Moskovskiy proyektnyy institut (Moscow Planning Institute), is obtained. There are 1 figure and 5 tables.

ASSOCIATION: Glavnoye upravleniye po ispol'zovaniyu atomnoy energii pri Sovete Ministrov SSSR (Main Administration for the Utilization of Atomic Energy at the Council of Ministers of the USSR)

Card 3/3

X

S/194/62/000/001/028/066  
D201/D305

AUTHORS: Fradkin, G. M. and Kulish, Ye. Ye.

TITLE: Sources of alpha-, beta-, gamma- and neutron-radiation for the control and automation of technological processes

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 1, 1962, abstract 1-2-129 g (Radicakt. izotopy i yadern. izlucheniya v nar. kh-ve SSSR. T. I., M., Gostoptekhizdat, 1961, 95-109)

TEXT: The properties of artificial radioactive isotopes are considered, their characteristics given, ranges of applications shown and the classification of  $\alpha$ -,  $\beta$ - and neutron sources, as used in the USSR are given. 6 figures, 6 tables. [Abstracter's note: Complete translation.]

Card 1/1



SAVITSKIY, P.S., otv. red.; KULISH, Ye.Ye., red.; FRADKIN, G.M., red.;  
VORONOVA, A.I., red.; POPOVA, S.M., tekhn. red.

[Isotopes, radiation sources and radioactive materials;  
catalog] Izotopy istochniki izlucheni i radioaktivnye materialy;  
katalog. Izd.2., dop. Moskva, Gosatomizdat, 1962. 218 p.  
(MIRA 16:2)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po ispol'zova-  
niyu atomnoy energii.

(Isotopes) (Radiation)

RUMYANTSEV, S.V.; DOBROMYSLOV, V.A.; SHTAN', A.S.; KULISH, Ye.Ye.

Radiation characteristics of  $\gamma$ -sources from  $\text{Sm}^{145}$  and  
enriched  $\text{Se}^{75}$ . Atom. energ. 15 no.6:511-514 D '63.  
(MIRA 17:1)

KULISH, Yu. S.

Cand Geolog-Mineralog Sci

Dissertation: "Experiment for Investigating an Interaction of Grounds with  
Bitumeus and Their Components." 30/3/50

Moscow Order of Lenin State V imeni M. V. Lomonosov.

SO Vecheryaya Moskva  
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KULISHENKO, A. Z.

USSR/Physical Chemistry - General Problems of Isotope Chemistry: B-7

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 60988

Author: Kulishenko, A. Z.

Institution: None

Title: Equation of the Curve of Absorption of Radiation in Active Layer of Sample for  $S^{35}$

Original  
Periodical: Zh. fiz. khimii, 1954, 28, No 7, 1186-1192

Abstract: On the basis of measurements of activity of  $BaSO_4$  precipitates (tagged with  $S^{35}$ ) of different thickness a more precise empirical formula has been derived for computation of the absorption of  $\beta$ -radiation of  $S^{35}$ :  $I_x/I_0 = 1 - \exp[-23x]$  (1), where  $I_x$  -- activity of sample of thickness  $x$  mg/cm<sup>2</sup> and  $I_0$  activity of "saturation" layer. The error in computation of the degree of absorption of radiation thus does not exceed 2%. Presented is a table of corrections of absorption for different  $x$  calculated in accordance with equation (1). Shown is the necessity of making

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USSR/Physical Chemistry - General Problems of Isotope Chemistry, B-7

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 60988

Abstract: correction for absorption in filter paper in the case of samples  
of a thickness below that of the "saturation" layer.

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FD-3239

KULISHENKO, A. Z.  
USSR/Chemistry - Fuels

Card 1/1      Pub. 41-20/22

Author      : Kulishenko, A. Z. and Medvedev, K. P., Khar'kov

Title      : Use of radioisotope S35 in investigating the thermochemical  
conversion of sulfur compounds in coal during coking

Periodical      : Izv. AN SSSR, Otd. Tekh. Nauk 7, 145-148, Jul 55

Abstract      : Gives formulas for computing distribution of active sulfur,  
added radioactive sulfur, pyritic sulfur, and organic sulfur  
in the products of thermal decomposition of coal. Explains  
experimental procedure used to verify theory. Finds results  
in agreement with those obtained by Eaton, Hyde, and Road  
(Analytical Chemistry, Vol 21, No 9, 1949). Three tables.  
Seven references, 6 USSR.

Institution      :

Submitted      : 28 February 1955

SOV/65-58-9-12/16

AUTHORS:

Medvedev, K. P. and Kulishenko, A. Z.

TITLE:

Investigations on the Participation of Forms of Sulphur During the Formation of Carbon Disulphide From Coke Oven Gas with the Aid of Radio-Isotopes. (Issledovaniye uchastiya form sery uglya v obrazovanii serougleroda koksovogo gaza pri pomoshchi radioizotopov).

PERIODICAL:

Khimiya i Tekhnologiya Topliv i Masel, 1958, Nr 9, pp 62 - 66, (USSR)

ABSTRACT:

These investigations concern the types of sulphur participating in the forms of carbon disulphide during the coking of coal and schists. The use of radioactive isotopes makes it possible to determine the nature and quantity of each type of sulphur taking part in the process. Details of experimental procedures and calculations were described in earlier publications (Refs. 1, 3). 0.2 - 0.4%  $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ , tagged with the radioactive  $\text{S}^{35}$ , is added during investigations of the thermal chemical conversions. Coals from the Donets Basin grade G and PS were used; their composition and also sulphur content are given in Table 1. Table 2: data on the conversion of the sulphur to sulphur disulphide depending on the temperature of heating and the grade of coal.

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SOV/65-58-9-12/16

Investigations on the Participation of Forms of Sulphur During the Formation of Carbon Disulphide From Coke Oven Gas with the Aid of Radio-Isotopes.

It was found that mineral sulphur takes part in the formation of carbon disulphide. The role of pyrite and organic sulphur was investigated. The same grades of coal and standard schists comprising 20% grade G, 40% grade PZh, 20% K and 20% PS grade coal were tested. Analysis data is given (Table 3). The separation of natural sulphur in the form of carbon disulphide proceeds at a greater rate in less metamorphosed coal grade G than in the coal grade PS. Results on the role of natural, pyrite and organic sulphur during the formation of carbon disulphide are given in Table 4. Table 5: comparison of the types of sulphur in carbon disulphide formed during the coking of coals and schists. It was concluded that the degree of metamorphosis of the coal is an important factor. Details of complex reactions of disintegration and synthesis occurring at high temperatures in coke ovens can be obtained by using this

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SOV/65-58-9-12/16

Investigations on the Participation of Forms of Sulphur During the Formation of Carbon Disulphide From Coke Oven Gas with the Aid of Radio-Isotopes.

method. There are 5 Tables and 7 References:  
1 German and 6 Soviet.

1. Carbon sulfides--Properties
2. Sulfur--Chemical reactions
3. Coal gas--Chemical properties
4. Sulfur isotopes (Radioactive)--Applications

Card 3/3

68-53-4-4/21

AUTHOR: Kulishenko, A. Z.

TITLE: The Use of Radioactive Level and Density Meters for Controlling the Productivity of Flotation Machines (Primeneniye radioaktivnykh urovnemerov i plotnomerov dlya kontrolya i regulirovaniya proizvoditel'nosti flotatsionnykh mashin)

PERIODICAL: Koks i Khimiya, 1958, Nr 4, pp 10-14 (USSR)

ABSTRACT: For an automatic control of the feed of pulp to flotation machines and its density, radioactive level and density meters were used at the Chumakovskaya TSCF. The principle of operation of the level meter UR-4 (Fig.1) was as follows: a source of  $\gamma$ -radiation  $\text{Co}^{60}$  and a receiver were placed in special measuring columns on vertically moveable supports. The receiver and the source move along the height synchronically and when the middle of the receiver is on the boundary of mediums the system is in equilibrium. With a change in the level of liquid the absorption of  $\gamma$ -radiation also changes, the signal is passed to the servomotor which appropriately moves the source and the receiver. The density meter was based on the variation in absorption of  $\gamma$ -radiation from  $\text{Co}^{60}$

Card 1/2 with the pulp density. It was found by controlling the

68-58-4-4/21  
The Use of Radioactive Level and Density Meters for Controlling  
the Productivity of Flotation Machines

pulp feed and its density the output of flotation machines can be considerably increased. The above two instruments can also be used for the complete automation of the flotation machines. There are 3 figures, 5 tables and 3 references, all of which are Soviet.

ASSOCIATION: UKhIN

1. Minerals--Flotation
2. Flotation machines--Control systems
3. Radiation meters--Applications
4. Cobalt isotopes (Radioactive)  
--Applications

Card 2/2

KULISHENKO, A.Z.; KHARITONOV, A.S.; KUZ'MENKO, A.S.; GARMASH, G.K.

Determination of the viscosity of magnetite in suspension by measuring its magnetic permeability in conjunction with a radioactive densitometer. Koks i khim. no.2:13-15 '69.  
(MIRA 13:5)

1. Ukrainskiy uglekhimicheskiy institut (for Kulishenko, Kharitonov). 2. Yasinovskiy koksokhimicheskiy zavod (for Kus'-menko, Garmash).  
(Yasinovka—Coal preparation) (Magnetite)

KULISHENKO, A.Z.

Automatization of the flotation division at the Yasinovka  
By-Product Coking Plant by means of radioactive density meters.  
Koks.i khim. no.5:17-19 '60. (MIRA 13:7)

1. Ukrainskiy uglekhimicheskiy institut.  
(Yasinovka--Flotation--Equipment and supplies)  
(Automatic control) (Densitometers)

KULISHENKO, A.Z.; MEDVEDEV, K.P.

Use of the radioisotopes  $S^{35}$  in the study of the process  
of coal desulfurization. Koks i khim. no.7:5-10 '60.  
(MIRA 13:7)

1. Ukrainskiy uglekhimicheskiy institut.  
(Coal) (Desulfuration) (Radioisotopes)

KULISHENKO, A.Z.; BOCHAROV, N.G.; KUZ'MENKO, A.S.

New flow sheet and automatic control of the flotation process.  
Koks i khim. no.3:3-11 '62. (MIRA 15:3)

1. Ukrainskiy uglekhimicheskiy institut (for Kulishenko).
2. Yasinovskiy koksokhimicheskiy zavod (for Bocharov, Kuz'menko).  
(Coal preparation) (Flotation) (Automatic control)



KULISHENKO, A.Z., kand. tekhn. nauk; KHARITONOV, A.S.; GRIDIN, I.A.

Capacitance transducer for measuring the moisture content of the  
coking charge in the flow. Koks i khim. no.9:16-19 '62. (MIRA 16:10)

1. Ukrainskiy uglekhimicheskiy institut.  
(Moisture—Measurement) (Coke)

GARMASH, G.K.; GRIDIN, I.R.; KULISHENKO, A.Z.; KHARITONOV, A.S.

Magnetic density relay. Zav.lab. 29 no.2:241-242 '63.

(MIRA 16:5)

(Electric relays) (Automatic control) (Suspensions (Chemistry))

KULISHENKO, A.Z., inzh.; RYBALKO, A.M., inzh.; KISHEV, V.P., inzh.;  
KIRILYUK, L.V.

Automatic supply of molding sand with the use of radioisotopes.  
Mashinostroenie no.6:58-59 N-D '64 (MIRA 18:2)

RAZIKOV, M.I.; Prinimali uchastiye: KHOVANETS, V.K., inzh.; KULISHENKO,  
B.A., inzh.; IL'IN, V.P., inzh.

New techniques for automatic hard facing in an atmosphere of  
carbon dioxide. Avtom. svar. 15 no.6:33-38 Je '62. (MIRA 15:5)

1. Ural'skiy politekhnicheskii institut imeni S.M.Kirova.  
(Hard facing) (Protective atmospheres)

KULISHENKO, V.

A word from innovators. Sov.profsoiuzy 6 no.18:30 D '58.  
(MIRA 12:2)

1. Instruktor Kiyevskogo oblssovprofa.  
(Kiev--Inventions, Employees')

KOZLOV, V. (g. Astrakhan'); KULISHENKO, V., instruktor; GUSAROV, N.  
(Tatarskaya ASSR); GROMADCHENKO, A.; BAYEV, V.; SHCHEGLOV, A., instruktor

With the trade union organizations. Sov.profsoiuzu 7 no.3:62-64  
F '59. (MIRA 12:3)

1. Kiyevskiy oblsoprof (for Kulishenko). 2. Rayprofsozh Karagandin-  
skogo otdeleniya zheleznoy dorogi (for Shcheglov).  
(Trade unions)

KULISHENKO, V.

An important point of a collective agreement. Sov.profsoiuzy 7  
no.9:48 My '59. (MIRA 12:8)

1. Starshiy instruktor Kiyevskogo oblasovprofa.  
(Kiev--Labor productivity)

MICHURIN, Ye, slesar'-sborshchik; ALEKSANDROV, A. (g.Dnepronetrovsk);  
BELYAYEV, A.; KULISHENKO, V.; POTAPOVA, A.; SPIZHARSKIY, N.;  
NAZARENKO, P.; SAVEL'YEV, V. (g.Arkhangel'sk)

Letters to the editors. Sov.profsotruzy 16 no.11:44-49 Je '60.  
(MIRA 13:6)

1. Moskovskiy zavod malolitrannykh avtomobiley (for Michurin).
2. Redaktor gazety "Za tempy" Kolomenskogo zavoda tekstil'nogo mashinostroyeniya (for Belyayev).
3. Starshiy instruktor Kiyevskogo oblastnogo soveta profsoyuzov (for Kulishenko).
4. Zaveduyushchiy uchebno-kursovoy bazoy Astrakhanskogo oblsoprofa (for Nazarenko).  
(Labor and laboring classes)



DUBYAGA, A.G.; KOFMAN, S.R.; KULISHER, M.A.

Basic trends in the development of tank farms. Neft.khoz. 38  
no.8:57-62 Ag '60. (MIRA 13'8)  
(Petroleum--Storage)

BONDARCHUK, A.P.; KODNITSKIY, I.I.; KULISHER, M.A.; PEVZNER, V.B.,  
red.; GOR'KOVA, A.A., ved. red.; BASHIRAKOV, G.M., tekhn.  
red.

[Automatic control on tank farms and of petroleum product  
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